TESTIMONY

ON

THE WATER SUPPLY, RELIABILITY AND ENVIRONMENTAL IMPROVEMENT ACT OF 2003

(H.R. ____)

PRESENTED BEFORE

SUBCOMMITTEE ON WATER AND POWER

COMMITTEE ON RESOURCES

U.S. HOUSE OF REPRESENTATIVES

PRESENTED ON BEHALF OF THE

WATEREUSE ASSOCIATION

BY

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SAN ANTONIO WATER SYSTEM

SAN ANTONIO, TEXAS

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Good morning. I am Eugene Habiger, President/CEO of the San Antonio Water System (SAWS), and I am here today also representing the Water Reuse Association. Mr. Chairman, Members of the Subcommittee, I am honored to appear before you again. In late March, I appeared before this Subcommittee to discuss the nature and extent of the challenges that both Texas and the nation are facing to ensure safe and reliable water supply. I also want to note that this Subcommittee is to be commended for its willingness to highlight the importance of water reuse projects. Mr. Chairman, you and Ranking Member Napolitano, have been staunch supporters of making certain that a strong federal partnership is maintained with communities that are striving to develop innovative and alternative water supply projects. We appreciate your recent statements in support of increases in the water reuse budget at the U.S. Bureau of Reclamation.

The recent action by the House Committee on Appropriations reaffirmed its support of this partnership as part of the fiscal year 2004 budget. I am pleased to have the opportunity to address you and comment on the Chairman's legislation to create a meaningful response to the national water supply shortage that communities are experiencing.

Thank you for inviting me to share with you the importance of water desalination and water reuse projects not only for San Antonio, but also for many communities in Texas and our nation, and the role that the federal government can and must play to ensure these projects are successful.

Title I, HR_____

The WateReuse Association supports your proposal to establish a comprehensive competitive grants program that would begin to address the needs of local communities' water supply shortages. There are a number of areas within the legislation that we would like to work with you and the Subcommittee on to clarify some of our questions about how the program would be implemented. However, we believe the key point is that, should this important legislation be enacted into law, the nation will for the first time have a proposed policy that would establish the same priority for reuse and other alternative water supply programs as that which currently exists in water pollution control and drinking water quality. If this legislation is enacted, we hope to see similar gains made in the development of alternative water supply projects as witnessed in the advances in water quality through implementation of the Clean Water and Safe Drinking Water Acts. These advances are attributable to the strong federal partnership that was established through grants and loans to

support the development of water and wastewater projects at the local level.

Title I of HR_____ would establish a nationwide competitive grants program to develop alternative water supply projects. The authorization of $100 million per year falls far short of the demonstrated need, but it is a realistic level given today's austere budget conditions at the federal level. We are equally supportive of the legislation's provisions to expand the existing commitment for the Title XVI program, thereby providing an important signal to those western communities that are currently confronting some of the most severe water shortages in the history of the West.

Title I provides for a complete overhaul of the way in which the federal government would implement water resources development policy. It would identify the value of a broad-based response to meeting water supply shortages. The ability to tailor a response to the unique circumstances of an area is central to a successful partnership. Some communities will be in a position to rely entirely on water reuse - other areas may find that a combination of reuse and desalination, for example, is a more cost-effective response to supply shortages. Title I offers the flexibility that is needed in local water resources development planning.

In the past, the WateReuse Association has urged Congress to consider the fact that many federal agencies are involved in the development of water supplies and to provide incentives to promote the efficient application of reuse technologies. We are pleased to see that Title I would require just such a coordinated approach by requiring the Secretary of the Interior, acting through a newly established "resources coordinator," to work with other federal agencies to identify these resources in other agencies that could be used to promote the development of such water supply projects. The priority to use limited federal resources in an efficient manner is a sound goal.

However, we are concerned that the goal may be problematic to achieve if only because of competing and long established, yet justified, priorities within each of these federal agencies. Instead, we would recommend that the Subcommittee revise this element of Title I to require each of the federal agencies to report to the Congress on ways in which their programs could be used to complement the alternative water supply activities in other federal agencies. If this revision were to be adopted, it would serve as an important complement to the bill's other provision, the creation of a multi-agency task force. The ability to combine the task force's accounting of existing resources throughout the federal bureaucracy with ways to coordinate the use of these resources would bring tremendous efficiencies to the development of water supply projects.

Mr. Chairman, the WateReuse Association is pleased that your legislation seeks to develop a comprehensive approach to meeting the needs of the entire nation.

What is SAWS and Texas Doing?

SAWS is a municipally owned water utility serving approximately one million people in South Central Texas. We provide drinking water, wastewater and recycled water service to nearly 300,000 connections including three military bases (Lackland AFB, Brooks City Base, Fort Sam Houston), numerous large businesses (USAA, Valero, and soon Toyota), four municipal golf courses, six universities and numerous other significant institutions.

Currently, most of San Antonio's drinking water is pumped from the Edwards Aquifer, a massive underground reservoir. However, due to endangered species issues, our ability to rely solely on this unique resource is no longer practicable. The City of San Antonio/Bexar County community reached a significant milestone on October 19, 2000. On this day the San Antonio City Council via Ordinance # 92753 approved a multi-year funding mechanism (Water Supply Fee) for the construction and development of additional water resources to meet our projected water demands for the next 50 years.

SAWS uses an integrated approach to achieve this task. As we strive to secure our water future, we are as concerned with managing demand, through our nationally recognized water conservation efforts, as we are with developing new supplies. Per capita water demand has reduced by approximately 32% over the last 15 years - we're using less water today than we did 20 years ago even though our population has grown. Desalination and water reuse are important components of our 50-year plan.

Texas Senate Bill 1 (1997) created 16 regional water planning groups charged with developing water

management strategies to meet Texas' water needs. The recommendations of each region are now part of the 2002 State Water Plan, *Water for Texas*.

Desalination was a recommended water management strategy in several regions: The Far West Texas Region and the Coastal Bend Region, desalination of brackish groundwater was used as a strategy to provide approximately 67,000 acre-feet per year (AFY) in additional supplies. The desalination of seawater was recommended by the South Central Texas Region (San Antonio is a member) to provide up to ~ 85,000 AFY. Currently in Texas, municipal desalination capacity is 25,750 AFY (source: 2002 State Water Plan).

On April 29, 2002, Texas Governor Rick Perry directed the Texas Water Development Board (TWDB) to develop a recommendation for a demonstration seawater desalination project as one step toward securing an abundant water supply to meet Texas' future water supply needs.

The TWDB has identified three sites for demonstration projects: Corpus Christi, Free Port, and Brownsville - all major cities along the Texas coast. All three projects envision starting at 25 mgd with the possibility of expanding to 100 mgd. SAWS is exploring opportunities to partner with Corpus Christi. The TWDB identified the possibility of funding for the desalination projects through existing State financial assistance programs and through the issuance and use of private activity bonds. Currently, two options exist for private activity bond proceeds to be used to finance large-scale water projects:

1) TWDB may apply to the Bond Review Board for a portion of the State Cap through the "State Voted Issues" category or,

2) Political subdivisions of the State may apply to the Bond Review Board through the "All Other Issues" category. If TWDB applies for an allocation of the State Cap though, a $50 million maximum is imposed. Political subdivision applications are further restricted to a maximum of $25 million per project.

Neither of these amounts would be sufficient to provide the financing necessary for a large-scale water project.

The TX Water Development Board (TWDB) also did a survey of possible federal assistance:

Army Corps of Engineers: The Water Supply Act of 1958 (Public Law 85-500) and the Water Resources Development Act of 1986 (Public Law 99-662) prescribe the Army Corps of Engineers' (Corps) authority related to water-supply initiatives. These acts authorize the Corps to cooperate with State governments and local entities to develop water supplies as part of multiple-purpose projects. **Desalination plants typically are not considered multiple-purpose projects; therefore, the Corps does not usually have the authority to participate in planning or construction of desalination projects.** The Corps has included a desalination plant in a reconnaissance study it is conducting with the Nueces River Authority as possible environmental remediation. The Corps is currently participating in a desalination project in El Paso, Texas. The Corps' involvement in the El Paso project is unique, however. Because the desalination plant will help meet water-supply needs of Ft. Bliss, the Corps may participate in the project as part of its mission to support the military base.

Bureau of Reclamation: According to the Bureau's *Guidelines for Preparing, Reviewing, & Processing Water Reclamation and Reuse Project Proposals Under Title XVI of the Public Law 102-575, As Amended,* a demonstration project is defined as one that is sized appropriately to demonstrate practicality and that also promotes application of innovative technologies, promotes nontraditional application of current technology as yet unproven, or establishes the feasibility of recycling water to local institutions when an unproven

technology is employed. **Application of a known technology that merely demonstrates feasibility in a different site or geographic region or modification of an already successfully applied technology would not qualify as a demonstration project.**

Environmental Protection Agency: The U.S. Environmental Protection Agency (EPA) has provided funding for desalination projects as authorized under the National Assistance Program for Water Infrastructure and Watersheds. Under the program, EPA may provide technical and financial assistance in the form of grants for the construction, rehabilitation, and improvement of water-supply systems. Typically the allocation of funding under this program is specified in the committee report that accompanies EPA's appropriations.

Brine and Concentrate Removal

The reject brine and concentrate streams from seawater and brackish groundwater desalination plants have to be removed, disposed of and/or beneficially reused. The location of the desalination facility usually limits the brine and concentrate removal and disposal options.

Typical removal options include any combination of the following:

1. Returned to Oceans, Bays and/or Estuaries

2. Deep Well Injection

3. Disposed of Via Landfills

4. Beneficial Reuse

Beneficial reuse of desalination brine and concentrate is rarely an option at the current time; however, there is the need to have ongoing public/private research projects to include new treatment technologies exploring beneficial reuse options. Potential research projects for beneficial uses of the reject stream are as follows:

1. Road or Soil Stabilization

2. Dust Control

3. Softener Regenerate

4. Salt Blocks for livestock and wildlife

5. Cotton Root Rot Control

6. Specific Chemical Recovery (i.e. magnesium for industrial consumption).

There are several environmental concerns associated with brine removal and disposal, which need further study:

Disposal of high salt content brine can be pipelined back to the ocean, but must be far offshore to assure that bays and estuaries are not affected by rise in salt content. Disposal of low salt content brine to surrounding areas has the potential of raising temperatures in bays and estuaries as well as possible increasing salt concentrations over time.

Disposal of brine sludge and filters byproducts (if filtration methodology is used) through land filling is an option, however landfills are generally located at some distance from the desalination plants; therefore, it would be expensive to transport and process brine waste. Most landfills will only process solid waste; therefore, the desalination byproducts would have to be dried before processing.

Disposal of brine byproduct via deep well injection poses potential environmental concerns.

Clearly, the federal government could and should be doing more to encourage and assist state and local governments to undertake desalination projects. Title I of HR_____ is a positive step in this process.

Water Reuse

Reclaimed, or recycled, water is an important tool for the nation's cities as they work to manage the water demands of a growing population. Nowhere is this truer than in Texas - where over 100 recycled water systems put recycled water to beneficial use. The reasons for such an abundance of reclaimed water applications in Texas range from the need to dispose of reclaimed water to meet water quality concerns in receiving streams or from the need to develop "drought proof" supplies for business and industry. San Antonio provides a good example of the critical role of recycled water for meeting water resource needs.

In 2002, SAWS completed the first phase of its system to recycle treated wastewater effluent for irrigation and industrial uses. For San Antonio, recycled water is an important part of our integrated approach to water resource management that relies on reducing, reusing, and recycling our water supplies while developing new freshwater resources.

SAWS' currently operates one of the largest water recycling or reuse, programs of its kind in the county. Over the past 6 years facilities have been put into place to deliver up to 35,000 AFY of recycled water annually to potential customers for non-potable uses, such as industries, cooling towers, military bases, parks, and river maintenance. The program has matured rapidly from concept, design, construction, to operation. When added to the 30-40,000 AFY demand for recycled water by the city's electrical utility, City Public Service, the nearly 75 mgd system provides a cost-effective alternative to the Edwards aquifer. This system not only protects businesses and military bases from drought, but also benefits endangered species habitat by helping to curb the increasing demand on the Edwards aquifer.

Our recycled water is of very high quality - almost to drinking water standards. Two cities comparable to our water quality levels are San Jose and San Diego. To further supplement our water supply, we began using recycled water for cooling lakes required for the city's electrical utility. This system now provides a drought-proof supply for industries, cooling towers, military bases, universities, municipal parks, golf courses and river maintenance.

Our 72-mile pipeline system took about 6 years to design & > $125M to build - but the benefits are obvious.

San Antonio is well recognized for its 'River Walk'. Our city welcomes over 8 million visitors a year - generating over $4 billion of economic impact. Our Recycled Water System is designed to supply 4,250 acre-feet per year, or over a billion gallons, into the San Antonio River - thus assuring a reliable source of water year round.

Conclusions/Recommendations

San Antonio has determined that we must do everything we can to conserve and reserve our existing resources. Additionally, the decision to invest in this source of supply was especially important for our community as we faced limits on our historic water supply due to pumping from the Edwards Aquifer, home to threatened and endangered species.

For this reason, San Antonio may be uniquely positioned for achieving clear federal purposes as it implements its long-range water resource programs including desalination and recycled water. These purposes include, as a minimum, ecosystem restoration and protection of endangered species.

In addition to the funds expended for the recycled water program, SAWS will invest in excess of $2.6 billion dollars over the next 50 years to diversify its water supply. This will reduce our reliance on the Edwards Aquifer, provide us with a reliable water supply for San Antonio and help maintain the habitat of federally protected species.

Other communities, which are not faced with endangered species issues, are looking into desalination and are using recycled water as a way to ensure that key industries and business interests are provided a secure source of water even during drought.

Especially during these times of economic uncertainty, ensuring reliable water is critically important to protect our local, state and federal economies; and to protect jobs. As new systems are developed and put on line it should be expected that additional regulation would be forthcoming to protect the environment and public health.

Just as local users are helping to achieve federal purposes, the federal government can assist communities further the use of desalination and recycled water by:

1. Providing grants or cost-share funds for desalination demonstration projects, water quality and the treatment needed for use of recycled water in certain applications (e.g. concrete for highway construction, industrial uses such as micro-chip or other specialty manufacturing, etc.);

2. Provide research assistance for studies related to beneficial uses for brine.

3. Provide assistance and training for design, construction and operation of recycled water systems;

4. Create incentives for the reuse of water from wastewater treatment plants rather than discharging it into streams (supports Clean Water Act goals);

5. Require the use of recycled water, for non-potable purposes, at federal installations, federal office buildings, for projects funded with federal funds, and by contractors when such supply is available; and

6. Fund such uses from the federal budget rather than shifting those costs to the local communities.

These are just a few ideas of policies and programs that could be developed to encourage the development of desalination and recycled water facilities throughout the nation.

Such use of our precious natural resources is an important component of managing the needs of a growing population, protecting the environment and keeping our nations' economy vibrant.

Again, Mr. Chairman, it is an honor to participate in this process. The WateReuse Association and its members - including the San Antonio Water System -- look forward to supporting you and other members of the Subcommittee to develop a meaningful policy to meet the challenges of delivering safe and reliable water supplies to municipalities, industries, agriculture, and environment. Thank you for the opportunity to appear before you today, I would be pleased to answer any question you may have.